Remarks:

Reconsideration of the application is requested. Claims 1-22 remain in the application. Claims 1 and 3 have been amended.

In item 6 of the above-identified Office action, the Examiner has objected to claim 8 under MPEP § 608.01(n) as being improper for being a multiple dependent claim depending from another multiple dependent claim. The Examiner's definition of a "multiple dependent claim" is incorrect. MPEP § 608.01(n) states, "Generally, a multiple dependent claim is a dependent claim which refers back in the alternative to more than one preceding independent or dependent claim." In this case, Claim 8 is merely a (non-multiple) dependent claim. The preamble of claim 8 states, "8. The composite material according to claim 5..." First, claim 8 only depends from one claim, claim 5. Second, there is no alternative expression; i.e. "The composite material according to claims x, y, or z..." Likewise, claim 5 is not a multiple dependent claim. For these reasons claim 5 meets the standards of 37 CFR 1.75(c) and, therefore, needs to amendment.

In item 8 of the Office action, the Examiner rejected claims 1-22 as being indefinite under 35 U.S.C. § 112, second paragraph. More specifically, the Examiner has stated that the language of claim 1 was unclear. Claim 1 has been amended. The language of claim 1 is intended to state a

composite including a population of fiber bundles. The fiber bundles belong to different fractions. Each fraction has a different average length. The weight of each fiber bundle is proportional to that fiber's length. A distribution (i.e. a histogram) of the fiber bundles has two peaks (a peak for the average weight of each fraction of bundles) with a minimum between the peaks. Read with this understanding, amended claim 1 is clear and definite.

In item 9, the Examiner rejected claims 2-4 as being indefinite for using the term "at least partly". More specifically, the Examiner stated that this term is relative. However, this term is not relative. "At least partly" is synonymous with some or all. No comparison is being made. Therefore, claims 2-4 are definite.

In claim 2, the Examiner rejected the claim for not distinctly pointing out that the fibers have a protective layer. The Examiner has misunderstood claim 2. Claim 2 is meant to describe the following:

- At least a portion (i.e. some or all) of said fiber bundles...
- ... at least partly have (i.e. partially or fully) ...
- at least one (i.e. one or more) protective layer.

Claim 2 therefore is clear and definite.

The Examiner rejected claim 3 as being indefinite for including the term "highly". The term "highly" has been removed from claim 3.

The Examiner rejected claim 3 as not distinctly pointing out fibers that are resistant to elevated temperatures. However, amended claim 3 explicitly includes, "fiber bundles contain fibers selected from the group consisting of … fibers resistant to elevated temperatures." Accordingly, claim 3 does distinctly point out fibers that are resistant to elevated temperatures.

In item 10 of the Office action, the Examiner rejected claim 3 as being indefinite under 35 U.S.C. § 112, second paragraph. More specifically, the Examiner rejected the phrase "carbonized types of cellulose fibers." As suggested, the words "types of" have been deleted.

In addition, in claim 3, the Examiner objected to the term "other carbonized organic fibers." However, when read in light of claim 3 as a whole the term "other" means all organic fibers except cellulose and wood. While such language is broad, it is not indefinite. Therefore, in light of the amendments, claim 3 is definite.

Accordingly, the specification and the claims meet the requirements of 35 U.S.C. § 112, first and second paragraphs. Should the Examiner find any further objectionable items, counsel would appreciate a telephone call during which the matter may be resolved. The changes are neither provided for overcoming the prior art nor do they narrow the scope of the claim for any reason related to the statutory requirements for a patent.

In item 11 of the Office action, the Examiner rejected claims 1-3, 5, and 7-12 as being fully anticipated by Tredway et al. (U.S. 5,552,213) under 35 U.S.C. § 102(b). The rejection has been noted and the claims have been amended in an effort to define more clearly the invention of the instant application. Support for the changes is found on page 13, line 21, through page 14, line 13, of the specification. The term "predominantly" is to be given its standard meaning as defined in the dictionary as "being most frequent or common".

Before discussing the prior art in detail, a brief review of the invention as claimed is provided. Amended claim 1 calls for, *inter alia*, a composite material including:

> a ceramic matrix predominantly including at least one substance selected from the group consisting of carbon, silicide, boron, aluminum, zirconium, silicon carbide, silicon nitride, boron nitride, boron carbide, SiBCN, TiC, iron silicides, and other silicides...

Tredway et al. teach glass matrix composites. Treadway et al. do not teach, "A ceramic matrix including at least one substance selected from the group consisting of carbon, silicide, boron, aluminum, zirconium, silicon carbide, silicon nitride, boron nitride, boron carbide, SiBCN, TiC, iron silicides, and other silicides."

In item 13 of the Office action, the Examiner rejected claims 4, 6, and 13-22 as being unpatentablve over Tredway et al. in view of Beier et al. (U.S. 6,316,086) under 35 U.S.C. § 103(a). For the reasons discussed above, Tredway et al. does not teach, "A ceramic matrix including at least one substance selected from the group consisting of carbon, silicide, boron, aluminum, zirconium, silicon carbide, silicon nitride, boron nitride, boron carbide, SiBCN, TiC, iron silicides, and other silicides."

Likewise, the invention of Beier et al. is directed to glass matrix composites. Beier et al. do not teach or suggest the features of amended claim 1. Beier et al. do mention using SiC, BN, boron carbide, titanium carbide, carbon, and silicon as fillers; *see* col 5, lines 1-17 and 26-43. However,the amounts of these substances never reaches "predominance" as is described in amended claim 1. In addition, in Beier et al., the fillers are invariably in powder form; *see* col. 4, lines

64-65. In contrast, a matrix as described in claim 1 of the instant application is a continuous phase.

Accordingly, none of the references, whether taken alone or in any combination, either show or suggest the features of claim 1. Therefore, claim 1 is patentable over the art. Moreover, because all of the dependent claims are ultimately dependent on claim 1, they are believed to be patentable as well.

Claims 23-66 should also be rejoined according to MPEP § 821.04. The rejoinder is required because the process claims include all the limitations of the patentable product and the request has been made prior to a final rejection or allowance.

In view of the foregoing, reconsideration and allowance of claims 1-66 are solicited. In the event the Examiner should still find any of the claims to be unpatentable, please telephone counsel so that patentable language can be substituted.

Please charge any other fees that might be due with respect to Sections 1.16 and 1.17 to the Deposit Account of Lerner and Greenberg, P.A., No. 12-1099.

Respectfully submitted,

LOREN DONALD PEARSON
REG. NO. 42,987

Loren D. Pearson

For Applicants

LDP:cgm

June 6, 2002

Lerner and Greenberg, P.A.
Post Office Box 2480
Hollywood, FL 33022-2480
Tel: (954) 925-1100
Fax: (954) 925-1101

Version with Markings to Show Changes Made:

In the Claims:

Claim 1 (twice amended). A composite material, comprising:

a ceramic matrix predominantly including at least one substance selected from the group consisting of carbon, silicide, boron, aluminum, zirconium, silicon carbide, silicon nitride, boron nitride, boron carbide, SiBCN, TiC, iron silicides, and other silicides; and

fiber bundles having two different fractions [of fiber bundles] including a reinforcing fiber bundle fraction and a matrix fiber bundle fraction having lengths with different [average fiber bundle lengths] averages, each of said fiber bundles having a weight, said weights being proportional to said fiber bundle lengths, said weights being plotted on a total fiber bundle distribution, and said fractions of fiber bundles being separated by a minimum in [a] said total fiber bundle distribution [of the weights of the fiber bundles being a function of a fiber bundle length].

Claim 3 (amended). The composite material according to claim 1, wherein said fiber bundles contain fibers selected from the group consisting of carbon fibers, graphite fibers, SiC-fibers, aluminum oxide fibers, $Al_2O_3SiO_2$-fibers, $Al_2O_3SiO_2B_2O_3$-fibers, carbonized [types of] cellulose fibers,

carbonized wood fibers, other carbonized organic fibers and fibers [highly] resistant to elevated temperatures based on compounds containing Si, C, B, N, Al.